

REMARKS

In the outstanding Office Action, the Examiner objected to the specification; rejected claims 17, 20, and 21¹ under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,590,686 (“Sekiya”); rejected claims 1, 3, 4, 7-10 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Sekiya in view of U.S. Patent No. 5,900,621 (“Nagakubo”); and allowed claims 6 and 11-16.

By this amendment, Applicant has amended the specification and claim 17. Claims 1, 3, 4, 6-17, and 19-21 remain pending.

I. Allowable Subject Matter

Applicant gratefully acknowledges the Examiner’s allowance of claims 6 and 11-16.

II. Objection to the Specification

At page 2 of the specification, the Examiner objected to the specification for failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner appeared to be asserting that the term “bi-lateral communication,” as recited in claim 17, was not in the specification. Although Applicant disagrees with the Examiner, the specification has been amended to expedite prosecution. The specification has been amended to include a recitation of “bi-lateral communication,” between the laser module 100 and the temperature control 332 as shown, for example, in Figure 3. Because this element was in at least Figure 3, as originally filed, and as also noted by the Examiner at page 2 of the Office Action, this is not new matter.

¹ At page 2 of the Office Action, the Examiner states that “[c]laims 17-18 are rejected under 35 U.S.C. § 102(e).” Applicant notes, however, that claim 18 has been canceled. Moreover, on page 3 of the Office Action, the Examiner specifically rejects claims 20 and 21. Accordingly, Applicant believes that the Examiner meant to indicate that claims 17, 20, and 21 were rejected under 35 U.S.C. § 102(e).

Applicant respectfully submits that the specification is now in compliance with 37 CFR 1.75(d)(1), and requests that the objection to the specification be withdrawn.

III. Rejections under 35 U.S.C. § 102(e)

Regarding the rejection of claims 17, 20, and 21 under 35 U.S.C. § 102(e) as being anticipated by Sekiya, Applicant respectfully disagrees with the conclusions and assertions as set forth in the Office Action². Accordingly, Applicant respectfully traverses this rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference ... [t]he identical invention must be shown in as complete detail as is contained in the . . . claim." M.P.E.P. § 2131 8th Ed. (Rev. 2), May 2004 (internal citations omitted).

A. Claim 17

Claim 17 recited a combination including, *inter alia*, "means for controlling a temperature of the laser module through direct bi-lateral communication between the laser module and the temperature-controlling means." Sekiya fails to teach at least this element.

Sekiya teaches:

an LD temperature control circuit 8 is further provided to maintain the temperature of the laser diode 2 constant. The control circuit 8 receives a signal *from a temperature sensor* such as a thermistor (not shown) provided in the vicinity of the laser diode 2, and controls a drive current for a Peltier element (not shown) for example, provided in the vicinity of the laser diode 2 so that the temperature of the laser diode 2 is maintained constant.

² The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement of characterization in the Office Action.

Sekiya, col. 4, lines 4-11 (emphasis added). This does not constitute a teaching that there exists a “direct bi-lateral communication” between laser diode 2 and temperature control circuit 8 in Sekiya. Moreover, Sekiya, as shown for example in Fig. 7, teaches light source 2 which outputs light to beam splitter 16. “In the beam splitter 16, a part of the optical signal is extracted as a monitor beam, which is in turn supplied to a power monitor 18.” Sekiya, col. 3, lines 58-61. A signal from power monitor is then supplied to LD current control circuit 20, and in turn to current monitor 26, compensating unit 28, and LD temperature control circuit 30. Sekiya, however, provides no disclosure of “direct bi-lateral communication between the laser module and the temperature controlling means,” as recited in claim 17. Because Sekiya fails to teach each and every element of claim 17, that reference cannot anticipate claim 17. Accordingly, Applicant respectfully requests that the rejection of claim 17 under 35 U.S.C. § 102(e) be withdrawn.

B. Claim 20

Claim 20 recites a combination including, *inter alia*, “a wave-length controller configured to receive at least one first signal from the laser module,” and “a temperature controller configured to receive at least one second signal from the laser module.” Sekiya fails to teach at least these elements.

Sekiya, as shown for example in Fig. 7, teaches light source 2 which outputs light to beam splitter 16. “In the beam splitter 16, a part of the optical signal is extracted as a monitor beam, which is in turn supplied to a power monitor 18.” Sekiya, col. 3, lines 58-61. A signal from power monitor is then supplied to LD current control circuit 20, and in turn to current monitor 26, compensating unit 28, and LD temperature control circuit 30. Sekiya thus teaches

that current monitor 26 receives a signal from LD current control circuit, and that LD temperature control circuit receives a signal from compensating unit 28. Because the signals received by current monitor 26 and LD temperature control circuit 30 are not from light source 2, Sekiya fails to teach the elements “a wave-length controller configured to receive at least one first signal *from the laser module*,” and “a temperature controller configured to receive at least one second signal *from the laser module*,” as recited in claim 20 (emphasis added).

Furthermore, Sekiya teaches that light source 2 emits an optical signal into external modulator 4, which as discussed above, emits an optical signal to beam splitter, wherein a portion of the optical signal is extracted and transmitted to power monitor 18. Sekiya only teaches, however, that one portion is extracted from the optical signal by beam splitter 16. Sekiya thus also fails to teach a “first signal from the laser module” and a “*second* signal from the laser module,” as recited in claim 20 (emphasis added). Accordingly, Sekiya fails to teach each and every element recited in claim 20, and claim 20 is thus allowable over Sekiya. Moreover, claim 21 is allowable over Sekiya at least due to its dependence on claim 20. Accordingly, Applicant respectfully requests that the rejection of claims 20 and 21 under 35 U.S.C. § 102(e) be withdrawn.

IV. Rejections under 35 U.S.C. § 103(a)

Regarding the rejection of claims 1, 3, 4, 7-10 and 19 under 35 U.S.C. § 103(a), Applicant disagrees with the Examiner’s assertions and conclusions as set forth in the outstanding Office Action. Accordingly, Applicant respectfully traverses this rejection on the ground that a *prima facie* case of obviousness has not been established. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met.

First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. *See* M.P.E.P. §2143.03 8th Ed. (Rev. 2), May 2004. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must “be found in the prior art, and not be based on applicant’s disclosure.” *See* M.P.E.P. § 2143 8th Ed. (Rev. 2), May 2004. At a minimum, the Examiner cannot establish that the references teach each and every element of the claims.

A. Claim 1

Claim 1 recites a combination including, *inter alia*, “[a] wavelength control circuit comparing the wavelength signal with a predetermined wavelength signal to generate a control signal,” and “a temperature determination circuit coupled to select the predetermined signal in response to the predetermined wavelength signal.” Sekiya, whether taken alone or in combination, fails to teach or suggest at least these elements.

Sekiya, as shown in FIG. 9, teaches a current monitor 26 coupled to compensating unit 28, compensating unit 28 then being coupled to LD temperature control circuit 30. The combination of these elements is taught to keep a wavelength constant as follows:

[a] current monitor 26 is provided between the LD current control circuit 20 and the laser diode 2. The current monitor 26 detects a *drive current* to be supplied from the control circuit 20 to the laser diode 2. A compensating unit 28 is provided to change the temperature of the laser diode 2 according to a change in the *drive current* detected by current monitor 26 so that the wavelength of the light beam to be output from the laser diode 2 becomes constant. More specifically, an LD temperature control circuit 30

changes the temperature of the laser diode 2 according to an output signal from the compensating unit.

Sekiya, col. 5, lines 44-54. Sekiya, however, is silent as to “a predetermined wavelength signal,” and accordingly fails to teach the elements “[a] wavelength control circuit comparing the wavelength signal with a predetermined wavelength signal to generate a control signal,” and “a temperature determination circuit coupled to select the predetermined signal in response to the predetermined wavelength signal,” as recited in claim 1.

Nagabuko, cited by the Examiner at page 3 of the Office Action for allegedly teaching “that it is well known to use a power controller ... in order to control the power output by the modulator,” fails to cure the above-noted deficiencies of Sekiya. Nagabuko teaches:

inverting amplifier 12b provides as an output the gain control signal (3) in inverse proportion to the average value obtained from the average detector 12b and supplies it to the amplifier 8 where the fluctuation of the monitor signal (2) is canceled as the gain of the amplifier 8 decreases when the monitor signal (2) is large and vice versa.

Nagabuko, col. 8, lines 39-45. Nagabuko, however, is silent as to “comparing the wavelength signal with a predetermined wavelength signal,” and is also silent as to temperature control.

Nagabuko thus fails to teach or suggest at least the elements “[a] wavelength control circuit comparing the wavelength signal with a predetermined wavelength signal to generate a control signal,” and “a temperature determination circuit coupled to select the predetermined signal in response to the predetermined wavelength signal,” as recited in claim 1.

Since the references, whether taken alone or in combination, fail to teach or suggest every element recited in claim 1, a *prima facie* case of obviousness has not been established.

Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Claims 3, 4, and 7-10 depend from claim 1, and thus require all of the elements recited in claim 1. Since Sekiya in view of Nagabuko fails to teach or suggest every element recited in claim 1, that combination of references also fails to teach or suggest every element required by the dependent claims. Accordingly, Applicant respectfully requests that the rejection of claims 3, 4, and 7-10 under 35 U.S.C. § 103(a) be withdrawn.

B. Claim 19

Claim 19 depends from claim 17, and thus requires all of the elements recited in claim 17. As discussed above, Sekiya fails to teach or suggest a combination including “means for controlling a temperature of the laser module through direct bi-lateral communication between the laser module and the temperature-controlling means,” as recited in claim 17, and required by claim 19. As discussed above, Nagabuko is silent as to at least “temperature-controlling means,” and thus fails to cure this deficiency.

Because Sekiya in view of Nagabuko fails to teach or suggest every element required by claim 19, a *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully requests that the rejection of claim 19 under 35 U.S.C. § 103(a) be withdrawn.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1, 3, 4, 6-17, and 19-21 in condition for allowance. Applicant submits that the proposed amendments of claim 17 does not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and

their relationships claimed were either earlier claimed or inherent in the claims as examined.

Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicant respectfully points out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicant to reply to the final rejections and place the application in condition for allowance.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

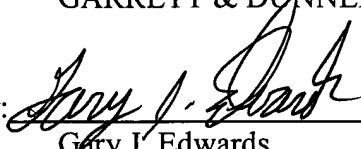
In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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